

PATENT APPLICATION

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appl. No. 09/685,403

14. (As Amended) A method for producing a non-transgenic herbicide resistant or tolerant plant comprising:

- a. introducing into a plant cell a recombinogenic oligonucleobase to produce a mutant EPSPS gene;
- b. identifying a cell having a mutated EPSPS gene, which cell has substantially normal growth as compared to a corresponding wild-type plant cell; and
- c. regenerating a non-transgenic herbicide resistant or tolerant plant from said plant cell.

15. (As Amended) A method for producing a non-transgenic herbicide resistant or tolerant plant comprising:

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- a. introducing into a plant cell a recombinogenic oligonucleobase to produce a mutant EPSPS gene;
 - b. identifying a cell having a mutated EPSPS gene, which encoded mutant EPSPS protein has substantially the same catalytic activity as compared to a corresponding wild type EPSPS protein; and
 - c. regenerating a non-transgenic herbicide resistant or tolerant plant from said plant cell.

19. (As Amended) The method according to claim 14 or 15 in which the mutant EPSPS gene is mutated at one or more amino acid positions, said positions selected from the group consisting of Leu₁₇₃, Gly₁₇₇, Thr₁₇₈, Ala₁₇₉, Met₁₈₀, Arg₁₈₁, Pro₁₈₂, Ser₁₉₈, Ser₂₅₅, and Leu₁₉₈ in *Arabidopsis* or at an analogous amino acid residue in an EPSPS paralog.

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20. (As Amended) The method according to claim 19 in which the positions in the *Lea* may paralog are selected from the group consisting of Leu₉₇, Gly₁₀₁, Thr₁₀₂, Ala₁₇₅, Met₁₀₂, Arg₁₀₅, Pro₁₀₆, Ser₁₀₇, Ser₁₀₈ and Leu₁₀₉.

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21. (As Amended) The method according to claim 19 in which the positions in the *Brassica napus* paralog are selected from the group consisting of Leu₁₆₉, Gly₁₇₃, Thr₁₇₄, Ala₁₇₅, Met₁₇₆, Arg₁₇₇, Pro₁₇₈, Ser₉₄, Ser₂₅₁ and Leu₁₉₄.

22. (As Amended) The method according to claim 19 in which the positions in the *Petunia hybrida* are selected from the group consisting of Leu₁₆₉, Gly₁₇₃, Thr₁₇₄, Ala₁₇₅, Met₁₇₆, Arg₁₇₇, Pro₁₇₈, Ser₉₄, Ser₂₅₁ and Leu₁₉₄.

23. (As Amended) The method according to claim 14 or 15 in which the plant is selected from the group consisting of corn, wheat, rice, barley, soybean, cotton, sugarbeet, oilseed rape, canola, flax, sunflower, potato, tobacco, tomato, alfalfa, poplar, pine, eukalyptus, apple, lettuce, peas, lentils, grape, turf grasses and *Brassica sp.*